

AMENDMENTS

In the Specification:

Page 1, line 1, delete "DESCRIPTION".

Page 1, after line 2, insert the following:

Reference To Related Application

[0001a]

This application is a national stage application under 35 USC 371 of International Application No. PCT/JP2004/019528, filed December 27, 2004.

Page 3, line 2, amend the heading as follows:

Disclosure Summary Of The Invention

Page 3, line 3, delete line in its entirety.

Page 3, line 14, delete line in its entirety.

Page 3, line 15, to page 5, line 17, amend paragraph [0006] as follows:

[0006]

The present inventors have conducted intensive studies and found that the dielectric loss tangent of a polyimide film can be unprecedentedly lowered by forming a particular higher order structure, and that such polyimide film simultaneously has heat resistance, applicability to high frequency and flexibility, which resulted in the completion of the present invention.

Accordingly, the present invention provides the following.

(1) A polyimide film obtainable by reacting an aromatic diamine with an aromatic tetracarbonic acid anhydride, which has a planar orientation coefficient of 0.79-0.89 as measured by the X-ray diffraction method, and a dielectric constant of 2.7-3.1 at 100 GHz as measured by a cavity resonance perturbation method.

(2) The polyimide film of ~~claim 1~~ paragraph (1) just above, having a dielectric loss tangent at 100 GHz of 0.0001-0.03 as measured by the cavity resonance perturbation method.

- (3) The polyimide film of ~~claim 1 or 2~~ paragraph (1) or (2) just above, having dielectric constants of 2.7-3.1 at 1 GHz and 2.6-3.0 at 100 GHz, as measured by the cavity resonance perturbation method.
- (4) The polyimide film of any of ~~claims 1 to 3~~ paragraphs (1) to (3) just above, which has a density of 1.47 g/cm³ - 1.55 g/cm³.
- (5) A polyimide film obtainable by reacting an aromatic diamine with an aromatic tetracarbonic acid anhydride, wherein the amount of water vaporized at a high temperature during heating at 500°C for 10 sec of the film immediately after helium purge at 170°C for 7 min and preliminary drying is not more than 5000 ppm.
- (6) The polyimide film of any of ~~claims 1 to 5~~ paragraphs (1) to (5) just above, wherein the ratio (ϵ_{65}/ϵ_D) of the dielectric constant ϵ_{65} at 100 GHz of the film humidity-conditioned under the constant temperature and humidity conditions of 20°C, 65% RH for 94 hr, as measured by a cavity resonance perturbation method, to the dielectric constant ϵ_D at 100 GHz of the film vacuum dried under the conditions of 120°C for 24 hr, as measured by a cavity resonance perturbation method, is within the range of 1.00-1.10.
- (7) A polyimide film obtainable by reacting an aromatic diamine with an aromatic tetracarbonic acid anhydride, wherein the absolute value of the difference between the surface planar orientation degree of one surface (surface A) and the surface planar orientation degree of the other surface (surface B) of the film is 0-2.
- (8) The polyimide film of any of ~~claims 1 to 7~~ paragraphs (1) to (7) just above, wherein the surface planar orientation degree of a surface having a higher surface planar orientation degree is not more than 15.
- (9) The polyimide film of any of ~~claims 1 to 8~~ paragraphs (1) to (8) just above, which has a curling degree of 0%-5%.
- (10) The polyimide film of any of ~~claims 1 to 9~~ paragraphs (1) to (9) just above, wherein the aromatic diamine has a benzoxazole structure.

(11) A base substrate for printed wiring assemblies, which comprises the polyimide film of any of ~~claims 1 to 10~~ paragraphs (1) to (10) just above.

(12) A method of producing a polyimide film, which comprises reacting an aromatic diamine with an aromatic tetracarbonic acid anhydride to give polyamide acid, casting a solution thereof on a support and drying the solution and the like to give a self-supporting polyimide precursor film (green film) and polyimidating said precursor film, wherein the polyimide precursor film (green film) satisfies all the relationships shown by the following formulas between an imidation rate Aim of one surface side (surface A side) and an imidation rate Bim of the other surface side (surface B side) of the polyimide precursor film (green film) and said polyimide precursor film is subjected to imidation.

formula 1[[:]]: $|Aim-Bim| \leq 5$

formula 2[[:]]: $0 \leq Aim \leq 15$

formula 3[[:]]: $0 \leq Bim \leq 15$

Page 5, line 18, delete line in its entirety.

Page 6, after line 19, insert the following:

Brief Description of the Drawings

[0007a]

Fig. 1 schematically shows an X-ray diffraction pole figure of a polyimide film.

Fig. 2 is a schematic view showing the measurement method of the curling degree of a polyimide film, wherein (a) is a top view, (b) is a sectional view along a-a in (a) before a hot air treatment, and (c) is a sectional view along a-a in (a) after a hot air treatment.

Fig. 3 is a schematic view showing a step for forming a first buildup layer in the production of a buildup multi-layer wiring board.

Fig. 4 is a schematic view showing a step for forming a second buildup layer in the production of a buildup multi-layer wiring board.

Page 59, line 1, delete line in its entirety.

Page 59, line 28, to page 60, line 17, delete passage in its entirety.

Replace the Abstract of the Disclosure with the abstract attached in the first Appendix.